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Abstract

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Project Title:	Rapid Mix and Measure HTS Assays for Anti-NCp7 Drug Discovery

Abstract: *DESCRIPTION (provided by applicant):* This project is aimed at exploiting a novel in vitro HTS assay to discover new anti-AIDS agents. The target is a specific NCp7-RNA interaction that is responsible for selecting full-length viral RNAs into budding virus particles. We have developed an indicator molecule that generates an optical signal upon binding their cognate protein target. These sensors operate free in solution which makes them very amenable for competition based "mix and measure" HTS assays for discovering small molecule inhibitors. The assay has been validated with the NCI diversity set of ~2000 compounds, where we identified 20 promising leads. These screens were conducted in-house using a Biomek(tm) 2000 liquid handler and SpectraMAX(tm) fluorescent plate reader. Our aim in collaborating with the MLSCN, is to scale-up and further optimize the assay to identify and develop lead compounds that demonstrate high affinity and specificity toward the HIV-1 NCp7 protein for therapeutic applications.

Thesaurus Terms: High-throughput screening, HTS, anti-AIDS agents, NCp7-RNA interaction, viral RNA, HTS assays, small molecules, small molecule inhibitors, NCI diversity set, Molecular Libraries Screening Centers Network, MLSCN, HIV-1 NCp7 protein

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